

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for transmitting asynchronous transfer mode (ATM) adaptation layer-2 (AAL2) type ATM cells (AAL2 cells), comprising:

an AAL transmitter to generate one or more AAL cells by multiplexing N AAL packets, generated by adding an AAL packet header to an i^{th} data subset of an original single user data set, wherein each of the one or more AAL cells includes an ATM header and a Start of Packet field to indicate a starting location of an i^{th} one of the N AAL packet-packets within the corresponding AAL cell, the AAL transmitter residing in a channel card, the channel card further including an AAL receiver and a CPU;

an AAL receiver to receive the one or more AAL cells generated by the AAL transmitter and to restore the original single user data set by demultiplexing the N AAL packets included in the one or more AAL cells, the AAL receiver residing in an AAL2 processor; and

an AAL2 transmitter to receive the restored original single user data set from the AAL receiver and to generate one or more of the AAL2 cells by multiplexing M common part sublayer (CPS) packets, generated by adding a CPS packet header to a j^{th} data subset of the restored original single user data set, the AAL2 transmitter residing in the AAL2 processor,

wherein i , j , N , and M are positive integers, $1 \leq i \leq N$, and $1 \leq j \leq M$.

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2. (Original) The apparatus of claim 1, wherein the AAL packet header includes a sequence number of the i^{th} data subset.

3. (Currently Amended) The apparatus of claim 2, wherein the AAL packet header further includes a routing tag field to identify the original single user data set and a length indicator field to indicate the length of the i^{th} data subset.

4. (Currently Amended) The apparatus of claim 3, wherein the AAL packet header further includes a C-FLAG field to indicate whether the i^{th} data subset represents the N^{th} data subset of the original single user data set.

5. (Canceled)

6. (Currently Amended) An apparatus for receiving asynchronous transfer mode (ATM) adaptation layer-2 (AAL2) type ATM cells (AAL2 cells), comprising:

an AAL2 receiver to receive one or more of the AAL2 cells, containing common part sublayer (CPS) packets corresponding to [[an]] a single original user data set, and to restore the single original user data set by demultiplexing the CPS packets, the AAL2 receiver residing in an AAL2 processor;

an AAL transmitter to receive the restored single original user data set from the AAL2 receiver and to generate one or more AAL cells by multiplexing N AAL packets,

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generated by adding an AAL packet header to an i^{th} data subset of the restored single original user data set, wherein each of the one or more AAL cells includes an ATM header and a Start of Packet field to indicate a starting location of an i^{th} one of the N AAL packet packets within the corresponding AAL cell, the AAL transmitter residing in the AAL2 processor; and

an AAL receiver to receive the one or more AAL cells from the AAL transmitter and to restore the single original user data set by demultiplexing the N AAL packets, the AAL receiver residing in a selector, the selector further including a second AAL transmitter and a CPU,

wherein

i and N are positive integers and $1 \leq i \leq N$.

7. (Canceled)

8. (Currently Amended) The apparatus of claim 6, wherein the AAL packet header includes a sequence number of the i^{th} data subset, a routing tag field identifying the single original user data set, and a length indicator field indicating the length of the i^{th} data subset.

9. (Currently Amended) The apparatus of claim 8, wherein the AAL packet header further includes a C-FLAG field to indicate whether the i^{th} data subset represents the N^{th} data subset of the single restored original user data set.

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10. (Canceled)

11. (Currently Amended) A method for transmitting asynchronous transfer mode (ATM) adaptation layer-2 (AAL2) type ATM cells (AAL2 cells), comprising:

generating N AAL packets by adding an AAL packet header to an i^{th} data subset of an original single user data set, the AAL packet header including a sequence number of the i^{th} data subset, a routing tag field identifying the original user data set, a length indicator field indicating a length of the i^{th} data subset, and a C-FLAG field indicating whether the i^{th} data subset represents an N^{th} data subset of the original single user data set, the generating being performed in an AAL transmitter residing in a channel card, the channel card further including an AAL receiver and a CPU;

generating one or more AAL cells by multiplexing the generated N AAL packets in the AAL transmitter of the channel card, wherein each of the one or more AAL cells includes an ATM header and a Start of Packet field that indicates a starting location of an i^{th} one of the N AAL packets within the corresponding AAL cell;

receiving the original single user data set at an AAL receiver;

restoring the received original single user data set by demultiplexing the N AAL packets included in the AAL cells, the restoring being performed by the AAL receiver residing in an AAL2 processor;

receiving the restored original single user data set at an AAL2 transmitter;

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generating M common part sublayer (CPS) packets by adding a CPS packet header to a j^{th} data subset of the restored original single user data set by the AAL2 transmitter residing in the AAL2 processor;

generating one or more of the AAL2 cells by multiplexing the M CPS packets by the AAL2 transmitter residing in the AAL2 processor; and

transmitting the AAL2 cells to a receiving system through a connection line, wherein

i, j, N , and M are positive integers, $1 \leq i \leq N$, and $1 \leq j \leq M$.

12-15. (Canceled)

16. (Currently Amended) A method of receiving asynchronous transfer mode (ATM) adaptation layer 2 (AAL2) type ATM cells (AAL2 cells), comprising:

receiving ~~one or more~~ a plurality of AAL2 cells containing common part sublayer (CPS) packets corresponding to an original single user data set, the receiving being performed in an AAL2 receiver residing in an AAL2 processor;

restoring the original single user data set by demultiplexing the CPS packets by the receiver in the AAL2 processor;

receiving the restored original single user data set at an AAL transmitter;

generating N AAL packets by adding an AAL packet header to an i^{th} data subset of the restored original single user data set, the AAL packet header including a sequence number

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of the i^{th} data subset, a routing tag field identifying the original single user data set, a length indicator field indicating a length of the i^{th} data subset, and a C-FLAG field indicating whether the i^{th} data subset represents the N^{th} data subset of the restored original single user data set, the generating being performed by the AAL transmitter residing in the AAL2 processor;

generating one or more AAL cells by multiplexing the N AAL packets by the AAL transmitter residing in the AAL2 processor, wherein each of the one or more AAL cells includes an ATM header and a Start of Packet field to indicate a starting location of an i^{th} one of the N AAL packets within the corresponding AAL cell;

receiving the one or more AAL cells at an AAL receiver; and

restoring the original single user data set by demultiplexing the N AAL packets included in the one or more AAL cells, the restoring being performed by the AAL receiver residing in a selector, the selector further including a second AAL transmitter and a CPU,

wherein

i and N are positive integers and $1 \leq i \leq N$.

17-21. (Canceled)